



MARTIN-LUTHER-UNIVERSITÄT  
HALLE-WITTENBERG

## **Our research:**

### **Self-Organization in Soft Matter *Beyond Amphiphilicity***

The Research Training Group (in German: Graduiertenkolleg, GRK) [RTG2670 "Beyond Amphiphilicity: Self-Organization of Soft Matter Via Multiple Noncovalent Interactions"](#) in **the second funding phase** at the Martin Luther University Halle-Wittenberg will start with a highly interdisciplinary and ambitious research program in **November 2025**.

#### **We invite applications for 9 PhD positions for 3 years.**

In total there will be about 25 doctoral researchers who will conduct soft matter research combining fields as diverse as *physical chemistry, spectroscopy, synthetic organic and polymeric synthesis, biophysical and bio-chemistry, theoretical chemistry and mathematics*, to advance the understanding of the emergence of complexity in molecular systems.

Our RTG combines science and research projects that start from the well-known and simple concept of amphiphilicity. We take an innovative look at multiple noncovalent interaction patterns beyond amphiphilicity and how they shape soft matter systems. In the second funding period, we focus on chemical and physical transition processes – such as (nanoscale) phase transitions, dissolution/solvation, catalysis, crystallization, or molecular aggregation/switching. The BEAM projects cover a wide spread of topics, including theoretical physics and chemistry work. For example, our targeted syntheses are supported by models of self-assembly for specific types of molecules. Here, we use symmetry and the geometric properties of the molecules in order to calculate bounds that help to predict specific behavior.

Moreover, we would like to more widely explore the possibility of computer simulations to refine the targeted synthesis even more and predict the self-assembly even better.



## Who we are

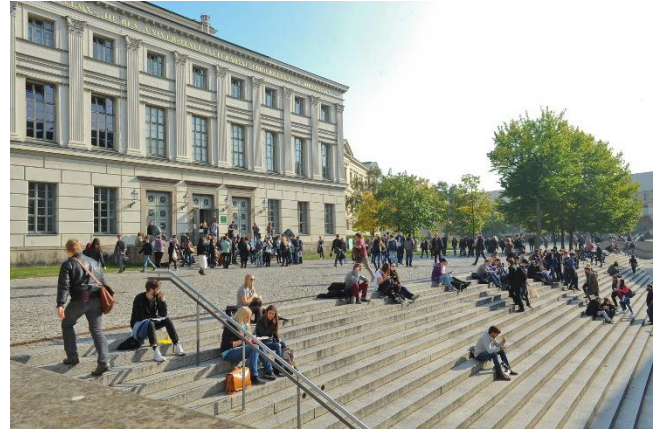
- The Research Training Group [RTG2670 – Beyond Amphiphilicity](#) in the second funding phase at the Martin Luther University Halle-Wittenberg
- 11 leading scientists in soft matter research, and finally, about 25 international PhD students



## What we offer

- exciting projects in **fundamental theoretical and experimental soft matter research**
- a supportive and enthusiastic atmosphere
- in-depth training in **interdisciplinary** soft matter science
- individual supervision and mentoring
- a PhD student mobility program with academic partners in Zurich (Switzerland) and Paris (France)
- a structured [PhD program](#) with seminars and workshops on scientific and professional skills

- financial support: a working contract with the university (no tuition fee)
- Halle is a vital student city with a low cost of living, with the University of Halle-Wittenberg offering a long tradition of academic excellence

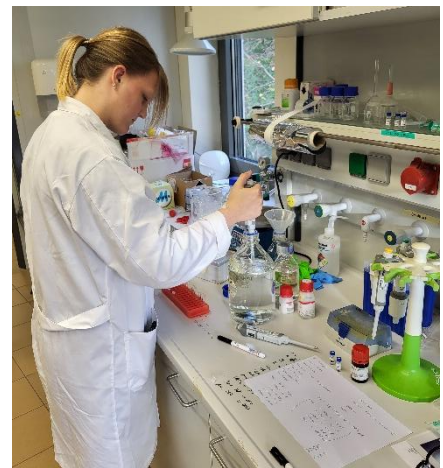


Interested?

We are looking for highly motivated students with a strong interest in soft matter science and a **solid qualification**. You should hold a master degree, diploma or an equivalent degree in one of the Sciences that are fundamental to BEAM (chemistry, physics, biochemistry, mathematics) or related fields.

### How to apply for it!

More information on the application process and the requirements can be found on our website <https://beam.uni-halle.de/>. Please apply via our <https://beam.uni-halle.de/applications/> **until positions are filled.**



GRK 2670  
**BEAM**  
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